Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

not only the account of the latest development of chemical theories, but also the more important empirical data upon which the theoretical conclusions are based. Of the three parts into which it is divided, the first discusses the atomic and molecular hypotheses, including such topics as the law of Avogadro, Dulong and Petit, and Mitscherlich; the limitations of these laws, and the causes of observed deviations therefrom; and the periodicity, atomic weights, and properties. The second part, treating of the statics of the atoms, or "the doctrine of the equilibrium of the atoms in their combinations with one another," deals with the forms of combination, the law of atomic linking, and valency, or capacity for saturation. The third part is concerned with the dynamics of the atoms, or "the doctrine of chemical change;" and under this head is put an account of the connection of mechanical disturbance, heat, light, and electricity, with chemical change, and a discussion of the influence of mass action and of the stability of compounds as dependent upon atomic composition and interaction. Careful and cautious weighing of evidence is obvious thoroughout the work; and while the value of hypotheses, regarded simply as approximations to truth as well as aids to work, is insisted upon, stress is laid upon the need of proceeding with judgment, and of keeping separate, so far as may be, those theoretical considerations which are the abstract expressions of observed facts, from hypothetical assumptions which show an appearance of probability which may or may not be lasting. To the chemist who wishes to keep up with the tide, a knowledge of the German language, to the point of being able to follow the current of chemical events in Germany, is a matter of necessity, and most chemists are doubtless familiar with the original of the volume before us; but, for the student just entering the real work of chemistry, this book seems to us the most important which has appeared in English in many years.

*The Art of Projection.* By A. E. DOLBEAR. Boston, Lee & Shepard. 12°.

THIS is a new edition of a well-known book, first issued about ten years ago. It has been revised, and contains some important additions, especially a series of experiments on vortex-rings. Projection has come to be so extensively employed, not only as a means of illustration, but often as an aid to research, that many books would be required to describe the uses to which it may be put. Professor Dolbear's book will always be useful as a guide to the *technique* of port-lumières, lanterns, sources of light, etc., and it contains a well-selected series of experiments suitable for presentation by this method.

*The Art of Investing.* By a New York broker. New York, Appleton. 16°.

THIS is the sort of book that will find many readers; for although few people, relatively speaking, can invest, yet many more hope to be able to some day, and every one likes to know how it is done. To many its perusal will be like a glimpse through the curtain at a nobleman's ball to a street gamin. It is cleverly written, and puts in a plain, practical sort of way a great many statements that all who invest believe, but few follow. The truth is, that speculation is more or less a disease, and, when it seizes one, it is apt to run its course, cautions and antidotes to the contrary notwithstanding. For this reason a book of this sort is of little value. Many persons who read it will think that they know better than the author what securities are safe, and what are not. Only personal experience and personal loss will convince them.

Under the head of investing, the author discusses the various investment securities in order, beginning with government bonds. The story of State and municipal repudiation is a sad and disgraceful one, and in consequence the confidence in a majority of the securities issued by State and municipal authority has long since been shaken. Many readers will be interested in what is said about farm loans, and will applaud the writer's conservative yet fair judgment concerning them. Under the head of speculating, the New York Stock Exchange receives a severe castigation, but one which is thoroughly deserved. It is beyond question that that far-famed institution has done more harm to the legitimate business interests of the country than any other single influence. If people can only be induced to keep away from it a little longer, it will die of inanition. Gambling is not very profitable unless some rich outsiders participate in the game. The book will unquestionably be widely read: it is almost too much to expect that it will be widely followed.

## NOTES AND NEWS.

DR. BILLINGS of the Army Medical Museum will signalize the removal to the new building near the National Museum by the preparation of an illustrated catalogue. It will contain drawings of all the crude and wet specimens of tumors, cancers, gangrenes, etc., and other objects on exhibition in the museum, besides microphotographs of morbid tissues prepared by Dr. W. M. Gray, the microscopist of the surgeon-general's office. Each picture will be accompanied by a short description of the object illustrated, but there will be no discussion of theories. The work, when completed, will constitute a complete pathology, and will be a most valuable text-book for students and physicians.

— Prof. C. H. Hitchcock of Dartmouth College has just returned from the Indian River region of Florida, where he has been studying the tracks of animals on the sand of the seashore in the hope that they might assist in the interpretation of the fossil foot-marks found in the sandstone of the Connecticut valley in Massachusetts. It may be remembered that the late Prof. Edward Hitchcock of Amherst College devoted a great deal of study to these fossil foot-marks, and published in 1858 a report in which he described, and illustrated by plates, a hundred and nineteen species of insects, worms, mollusca, crustaceans, etc., supposed to have been represented by them. Prof. C. H. Hitchcock is pursuing the same line of study in which his father worked so long, and the result of his recent visit to Florida is that he leans more and more to the opinion that the fossil tracks are chiefly those of crustaceans.

— The February number of the *Journal of the Royal Geographical Society* contains an interesting report of William John Steains's journey to the Rio Dôce in Brazil, and its northern tributaries. The traveller, who first went out to South America in connection with a commercial undertaking and the formation of railways, after having accomplished his duties in that direction, undertook the exploration of this river, only the lower part of which was known, although the territory is so near Rio Janeiro. It is principally the difficulty of navigation of the river, which breaks through the coast range in wild rapids and cataracts, and the hostility of the Botocudo, who inhabit this part of the coast, which prevent its being colonized. The country is covered with primeval forest of wonderful beauty and density, and only a few settlements exist on or near the banks of the Rio Dôce. Steains's paper is accompanied by a valuable map giving the results of his traverse surveys. A comparison with other maps of the river shows their great inaccuracy. Steains's geographical explorations, which lasted for eight months, were comparatively thorough. He not only explored the main river, but ascended several of its northern tributaries, particularly the Rio Sao José, which joins the Rio Dôce at Linhares, and several others. By these trips our knowledge of this region is materially increased. On the Rio Pancas he fell in with a sept of the Botocudo, with whom he lived for a month. His observations on this tribe do not contain any new information, and are not so thorough by far as Ehrenreich's study of these tribes, which were mentioned in No. 239 of *Science*. The exploration of the tributaries of the Rio Dôce, as well as that of the main river, was made very difficult by the numerous cataracts which had to be passed by long portages. From Steains's paper it would appear as though a considerable amount of private and government surveying was going on in Brazil; but very little definite information reaches us so far, and our maps of the greater part of Brazil are still very defective, being founded on very old observations and indefinite reports. From Steains's paper it does not appear whether his map is based upon astronomical observations, or a compass survey.

— Thomas Gray of the University, Glasgow, Scotland, has accepted the chair of dynamic engineering in the Rose Polytechnic Institute, Terre Haute, Ind., and will begin his work next September. Professor Gray is well known in this country for his researches in electricity, seismology, etc., and his work for several years with Sir William Thomson on instruments of precision for electrical measurement.